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Figure 1

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Template	Slot 0	Slot 1	Slot 2
00	M-unit	I-unit	I-unit
01	M-unit	I-unit	I-unit
02	M-unit	I-unit	I-unit
03	M-unit	I-unit	I-unit
04	M-unit	L-unit	X-unit
05	M-unit	L-unit	X-unit
06			
07			
08	M-unit	M-unit	I-unit
09	M-unit	M-unit	I-unit
0A	M-unit	M-unit	I-unit
0B	M-unit	M-unit	I-unit
0C	M-unit	F-unit	I-unit
0D	M-unit	F-unit	I-unit
0E	M-unit	M-unit	F-unit
0F	M-unit	M-unit	F-unit
10	M-unit	I-unit	B-unit
11	M-unit	I-unit	B-unit
12	M-unit	B-unit	B-unit
13	M-unit	B-unit	B-unit
14			
15			
16	B-unit	B-unit	B-unit
17	B-unit	B-unit	B-unit
18	M-unit	M-unit	B-unit
19	M-unit	M-unit	B-unit
1A			
1B			
1C	M-unit	F-unit	B-unit
1D	M-unit	F-unit	B-unit
1E			
1F			

Figure 2

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Figure 3A

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```

        }

        if remainder = 1 then:
            if (TypesI > 0 OR TypesA > 0) AND TypesF < TypesF-units AND
            TypesM+TypesA < bundle count then:
                goto MakeM_MI;
            else
                goto MakeMFB;
        }
        /* remainder = 2 */
        if (TypesI > 0 OR TypesA > 0) AND TypesF < TypesF-units AND
        TypesM+TypesA >= bundle count then:
            goto MakeM_MI;

MakeMFB:
    Template = MFB_;
    nop;
    nopb;
    goto StoreBundle;
/*-----*/
---+/
| INCOMPLETE equals MI_I
+-----+
---*/
    } else {
        INCOMPLETE = 0;
        if despersal window is large {
MakeMI_I:
    Template = MI_I;
    take-I;
    goto StoreBundle;
}
remainder = size of instruction group % 3
if remainder = 2 then:
    goto MakeMIB;

    if remainder = 0 then:
        if TypesI > 0 AND TypesF < TypesF-units
        AND TypesM+TypesA < bundle count then: goto MakeMI_I;
        else goto MakeMIB;
    }
    /* remainder = 1 */
    if (TypesI > 0 OR TypesA > 0) AND TypesF < TypesF-units
    AND TypesM+TypesA < bundle count then: goto MakeMI_I;

MakeMIB:
    Template = MIB_;
    nopB;
    goto StoreBundle;
}

}

While TypesALL > 0{ // while instructions remain in group

```

Figure 3B

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```

if TypesALL is equal to TypesMIA {
    if TypesALL > 3 {
        if TypesM > TypesI+TypesA then: Template = MMI; take-M;take-M;take-I
        else Template = MII; take-M;take-I;take-I
        goto StoreBundle;
    }
    if TypesALL = 3 and this is the first bundle of the group {
        if TypesI > 1 then: Template = MII; take-M;take-I;take-I
        else Template = MMI; take-M;take-M;take-I
        goto StoreBundle;
    }
    if TypesALL = 2 OR TypesALL = 1 and TypesI = 1{
        if TypesM = 2 then: Template = MMF; take-M;take-M;nop; goto
        StoreBundle;
        else INCOMPLETE = MI_I take-M; take-I; goto TopOfGroup
    }
    /* TypesALL = 1 */
    INCOMPLETE = M_MI take-M; goto TopOfGroup
}
if TypesLX > 0 then: Template= MLX; take-M; take-LX; goto StoreBundle;
if TypesB > 0 AND TypesALL-TypesB < 3 then: {
    if typesF > 0 then: {
        if TypesF+TypesI = 2 then: Template= MFI nop;takeF;take-I; goto
        StoreBundle;
        else Template=MFB take-M;takeF;take-B; goto StoreBundle;
    } else if TypesI > 0 {
        if TypesI = 2 then: Template= MII nop;takeF;take-I; goto StoreBundle;
        else Template=MIB take-M;take-I;take-B; goto StoreBundle;
    }else if TypesM = 2 then: Template = MMB take-M;take-M;take-B; goto
    StoreBundle;
    else if TypesALL-TypesB = 2 then: Template = MIB take-M;take-I;take-B;
    goto StoreBundle;
    else if TypesB = 1 then: Template = MFB take-M;takeF;take-B; goto
    StoreBundle;
    else if there are 2 TypesB instructions or 1 non-TypesB: Template = MBB
    take-M;take-B;take-B; goto StoreBundle;
    else Template = BBB take-B;take-B;take-B; goto StoreBundle;
}
/* TypesF > 0 */
if TypesALL = 3 AND TypesM = 2 then: Template = MMF take-M;take-M takeF;
goto StoreBundle;
else Template = MFI take-M;takeF take-I; goto StoreBundle;
}
storeBundle:
if TypesALL = 0 then: insert stop bit in Template;
build bundle in code buffer;
if TypesALL = 0 then: goto MainLoop;
else goto TopOfGroup;
}
DONE
if INCOMPLETE is not zero then: {
    if INCOMPLETE = M_MI then: Template = MFB; nop; nopB; goto StoreBundle;
    else Template = MIB; nopB; goto StoreBundle;
}

```

Figure 3C

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Figure 4

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